

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

### **REMARKS**

Applicants respectfully submit that all the claims presently on file are in condition for allowance, which action is earnestly solicited.

### **THE SPECIFICATION/DRAWINGS**

The drawings were objected to for failing to comply with 37 CFR 1.84(p)(5). Applicants respectfully submit that they have amended the specification to correct the reference numerals 451, 452, 453, 454, 455, and 456 consistently with the corresponding drawings. As a result, there is no longer a need to revise the drawings.

The drawings were also objected to as failing to comply with 37 CFR 1.84(p)(5) on the ground that "they include the following reference signs not mentioned in the description: figure 4, item 365 and figure 6, item 430." Applicants respectfully submit that item 365 is referenced at page 25 line 6 of the specification; and item 430 is referenced at page 21 line 2 of the specification. As a result, there is no requirement to revise the drawings.

### **THE CLAIMS**

#### **CLAIM REJECTIONS UNDER 35 USC 112 AND 101**

Claims 17, 18, and 22-24 were rejected under 35 U.S.C. 112, second paragraph. Applicants submit that these claims have now been amended in satisfaction of 35 USC 112.

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

Claims 22 - 24 were also rejected under 35 USC 101. Applicants respectfully traverse this rejection, and submit that claims 22 - 24 properly recite method steps. Nonetheless, Applicants have now amended claims 22 and 23 (claim 24 being dependent on claim 23) for added clarity.

### **CLAIM REJECTIONS UNDER 35 USC 102 IN VIEW OF MIGHDOLL**

Claims 1 and 22 were rejected under 35 USC 102 on the ground that "the transcoding proxy disclosed by Mighdoll et al. ("Mighdoll") is able to correct undesirable quirks (such as visibility to search engines) in web pages (see column 7, line 52 to column 8, line 3)." Applicants respectfully submit that Mighdoll does not disclose all the elements and limitations of claims 1 and 22. Consequently, claims 1 and 22 are not anticipated under 35 U.S.C. 102, and the allowance of these claims and the claims dependent thereon is earnestly solicited. In support of this position, Applicants submit the following arguments:

#### **A. Legal Standard for Lack of Novelty (Anticipation)**

The standard for lack of novelty, that is, for "anticipation," is one of strict identity. To anticipate a claim for a patent, a single prior source must contain all its essential elements, and the burden of proving such anticipation is on the party making such assertion of anticipation. Anticipation cannot be shown by combining more than one reference to show the elements of the claimed invention. The amount of newness and usefulness need only be minuscule to avoid a finding of lack of novelty.

The following are two court opinions in support of Applicants' position of non anticipation, with emphasis added for clarity purposes:

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

- "Anticipation under Section 102 can be found only if a reference shows exactly what is claimed; where there are differences between the reference disclosures and the claim, a rejection must be based on obviousness under Section 103." *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985).
- "Absence from a cited reference of any element of a claim of a patent negates anticipation of that claim by the reference." *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986), on rehearing, 231 USPQ 160 (Fed. Cir. 1986).

## B. Brief Summary of the Present Invention

### B.1. Problems addressed by present invention

Prior to presenting substantive arguments in favor of the allowability of the claims on file, it would be desirable to summarize the present invention in view of the problems it addresses. One of the problems addressed by this present invention is exemplified as follows: Crawlers have been developed to automatically retrieve data from various web sites. The data may be used internally (e.g. competitive analysis) or externally (e.g. news feed aggregation). Crawlers can pose concerns to companies that publish their products and services on their web sites, desiring to make the data available to customers, to the exclusion of third parties aiming at invading the companies' own published data to entice customers away from these companies.

Prior to the advent of the present invention there was no adequate mechanism by which the content of web pages can be protected from invading crawlers, without impacting the rendering of the web content to legitimate customers. This problem is further exacerbated by the difficulty in

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

detecting crawlers and discriminating between crawler and web browser requests.

## B.2. Present Invention

In summary, the present invention differentiates between a regular user's web browser and an automated crawler. The present invention prevents the automated crawler from making use of the web content without affecting the performance of a legitimate customer using a web browser.

For example, a customer using a web browser to access the company's web-based data, particularly price data, would still be able to access and interpret the data, while an automatic crawler will not be able to automatically process the data, even if the crawler were successful in accessing the data. In one embodiment, the protection system of the present invention will not prevent the crawler from downloading data. Rather, the data will be rendered non-extractable or automatically non-processable by the crawler.

The foregoing and further features and advantages of the present invention are achieved by any one or more of the following six transcoding techniques (e.g. software programs, algorithms, schemes, or processes), or by various combinations of these techniques:

The first transcoding technique involves dynamically changing the structure of a web form. Certain crawlers extract data by searching a web page for specific HTML elements and use them as anchors. This crawling technique will

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

cause the search to fail or to produce invalid results if the structure of the page were modified every time a web server sends the page to a client.

The second transcoding technique involves dynamically changing the content of a web form. Certain crawlers extract data by searching a web page for a keyword or phrase. Then, using the location of this keyword or phrase as an anchor, the crawlers extract the content data. Keyword searching can be prevented by inserting characters or images between the letters of the keyword or phrase that are invisible to an interactive user.

The third transcoding technique involves dynamically changing the names of form variables. Certain crawlers submit queries by hard-coding the names of form variables in URLs or the body of a POST message. However, these crawlers will fail if the names of the form variables are changed every session. A session may be established when the user visits the web site for the first time in a given time interval, such as the first visit of the day. Alternatively, every access to the web site may be viewed as a separate session.

The web server adds the session ID (identification) to the web form, which can then be extracted and used to compute synthetic names for the original form variables. The session ID is passed to the web user (crawler or browser) and the client passes the session ID back when the form is submitted. This allows the transcoding proxy to re-compute the original name from the synthetic name. Computing synthetic names generates fake (random, or meaningless) names for form variables. It utilizes a key in the generation of the fake names. The key is a session identifier, representing a session between a client and the server. The session ID is embedded within the web form. Recomputing the original names includes restoring the original names from the

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

fake names and the key. The key again, is the session ID, and passed from the web client when the form is submitted.

**The fourth transcoding technique** involves using dynamic images to display text data. Many crawlers exclusively search the textual content of web page. These crawlers ignore inline images, even when these images contain critical text elements. According to this protection technique, the transcoding proxy alters the HTML content of the web page by replacing text elements with their image counterparts on the fly, thereby preventing a crawler from detecting the text elements.

**The fifth transcoding technique** involves using an executable application such as JavaScript® to dynamically alter form variable names and content. Many crawlers exclusively search the static HTML code of the web page. According to this technique, pages that contain forms whose variables are initialized or calculated dynamically by a JavaScript® code cannot be effectively crawled because the JavaScript® code would have to be executed in order for the correct values to appear in the form variables.

**The sixth transcoding technique** involves using an executable application such as JavaScript® to dynamically generate the web page. Many robots exclusively search the static HTML code of the web page. According to this technique, a web server can alter the HTML content of the web page by replacing the static HTML code with JavaScript® code fragments that "print" the HTML content when executed. Alternatively, the HTML content of the web page can be encrypted by the server and decrypted by the JavaScript® code.

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

C. Mighdoll et al. Patent

Mighdoll provides a method of transcoding documents in a network environment using a proxy server. The server provides a number of Internet services to the client, including functioning as a caching proxy on behalf of the client for purposes of accessing the World Wide Web. The proxying server includes a persistent document database, which stores various attributes of all documents previously retrieved in response to a request from a client. When a Web document is retrieved from a remote server in response to a request from the client, the database is consulted and the stored information relating to the requested document is used by the server in transcoding the document. The document is transcoded for various purposes, including to circumvent bugs or quirks found in the document, to size the document for display on a television set, to improve transmission efficiency of the document, and to reduce latency. The transcoder makes use of the document database to perform these functions. The document database is also used for prefetching previously requested documents and images and for reducing latency when downloading images to the client. Reference is made to the Abstract.

More specifically, Mighdoll defines the term "quirk", and describes the feature for transcoding for bugs and quirks is described in the following excerpt that was cited by the Examiner in support of the anticipation rejection:

"One characteristic of some prior art Web browsers is that they may experience failures ("crashes") because of bugs or unexpected features ("quirks") that are present in a Web document. Alternatively, quirks in a document may cause an undesirable result, even though the client does not crash. Therefore, the transcoding feature of the present invention provides a means for correcting certain bugs and quirks in a Web document. To be corrected by the transcoder 66, bugs and quirks must be identifiable by software running on the server 5. Consequently,

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

the transcoder 66 will generally only correct conditions which have been previously discovered, such as those discovered during testing or reported by users. Once a bug or quirk is discovered, however, algorithms are added to the transcoder 66 to both detect the bug or quirk in the future in any Web document and to automatically correct it." Reference is made to Column 7, lines 52 - 67 with emphasis added.

#### D. Independent Claims 1 and 22 in Light of Mighdoll

Applicants will now present arguments in support of the allowance of independent claims 1 and 22, and the claims dependent thereon, over Mighdoll. Claim 1, as a representative claim, recites the following elements that are not described in Mighdoll:

"1. A system for preventing automated crawler access to data from a network-based data source, comprising:  
a transcoding proxy for automatically permutating data retrieved from the data source, to render the data uninterpretable by the crawler, while allowing a browser to render data retrieved from the data source." Emphasis added.

Applicants respectfully disagree with the Examiner's characterization that "visibility to search engines" qualifies as a "quirk". As presented earlier, Mighdoll clearly defines the term "quirk" to mean to a bug or an unexpected foaturo that is present in a Web document and that may causo an undosirable result. It would be impermissible for the Examine to redefine the term "quirk" in hindsight to justify the rejection ground.

More specifically, "visibility" could not and should not be interpreted to mean a quirk. Visibility is a positive feature of browsing and certainly it is not intended to cause an undesirable result. In essence, visibility does not mean quirk as defined by Mighdoll, and as such claim 1 is not anticipated by Mighdoll.



Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

In addition, Mighdoll is not concerned with the problem of the present invention (as explained earlier), but is rather concerned with the problem of correcting bugs and quirks. In summary, Mighdoll is not relevant to the present invention and Applicants respectfully request that Mighdoll be withdrawn from consideration.

Applicants submit that claim 22 is similarly allowable for containing elements that are generally similar to those of claim 1. As a result, claims 1 and 22 and the claims dependent thereon are allowable.

**CLAIM REJECTIONS UNDER 35 USC 102 IN VIEW OF LILLIBRIDGE**

Claims 1, 2, 7, 19, and 22 were rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,195,698 to Lillibridge et al. ("Lillibridge"), on the ground that: "The system disclosed by Lillibridge includes the transforming of text characters into images in order to render data to be uninterpretable by a crawler (see abstract)." Applicants respectfully submit that Lillibridge does not disclose all the elements and limitations of claims 1, 2, 7, 19, and 22. Consequently, claims 1, 2, 7, 19, and 22 are not anticipated under 35 U.S.C. 102, and the allowance of these claims and the claims dependent thereon are earnestly solicited. In support of this position, Applicants submit the following arguments:

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

A. Lillibridge et al. Patent

Lillibridge describes a computerized method selectively accepts access requests from a client computer connected to a server computer by a network. The server computer receives an access request from the client computer. In response, the server computer generates a predetermined number of random characters. The random characters are used to form a string in the server computer. The string is randomly modified either visually or audibly to form a riddle. The original string becomes the correct answer to the riddle. The server computer renders the riddle on an output device of the client computer. In response, the client computer sends an answer to the server. Hopefully, the answer is a user's guess for the correct answer. The server determines if the guess is the correct answer, and if so, the access request is accepted. If the correct answer is not received within a predetermined amount of time, the connection between the client and server computer is terminated by the server on the assumption that an automated agent is operating in the client on behalf of the user. Reference is made to the Abstract.

B. Application of the Legal Standard of Anticipation to Lillibridge

As explained in the excerpt above, Lillibridge is concerned with presenting riddles to the user and then selectively preventing the user from accessing the data under certain conditions. This is certainly teaching away from the present invention in that in addition to discriminating between an automatic crawler and a user browser, Lillibridge teaches disallowing a web browser from accessing the data, while the present invention does not prevent the user access to the data.

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

### **CLAIM REJECTIONS UNDER 35 USC 103**

Claims 1-5, 8-10, 12, 13, and 21-23 were rejected under 35 U.S.C. 103(a) as being obvious over U.S. Patent No. 5,918,013 to Mighdoll et al. in view of U.S. Patent No. 6,195,698 to Lillibridge et al.

Applicants respectfully traverse this rejection and incorporate by reference the arguments made earlier in favor of the allowance of the claims over Mighdoll and Lillibridge, and submit that claims 1-5, 8-10, 12, 13, and 21-23 are allowable over Mighdoll and Lillibridge whether considered individually or in combination with each other.

More specifically, both references teach away from the present invention, and it would be impermissible to combine these references in hindsight to justify the obviousness rejection ground.

In addition, neither reference contains a suggestion, an indication, or a motivation for the combination proposed by the Examiner. Consequently, such a combination is improper, and claims -5, 8-10, 12, 13, and 21-23 are allowable over the cited references.

### **ALLOWABLE SUBJECT MATTER**

Applicants thank the Examiner for the allowance of claims 14 - 16. Applicants have rewritten claims 14 and 15 in independent form and are now in condition for final allowance. In addition, the claims that depend on the allowable claim 15 are allowable, such as claims 16-18.

Application Serial No.: 09/617,460  
Amendment dated: 07/05/2004

Reply to Office action of: 04/05/2004  
Attorney Docket No.: ARC9-2000-0116 US1

**NEW CLAIM 25**

The Examiner indicated as follows: "Regarding claim 14, no art could be found that employ code obfuscation involving the nesting of tables for the purpose of displacing the data encompassed. Though U.S. Patent No. 6,334,189 to Granger et al. discloses generated code being placed in tables, it cannot be shown that the tables would necessarily become nested (see column 20, lines 26-30)." As a result, new claim 25 is allowable for containing the novel element of claim 14. The allowance of claim 25 is respectfully requested.

**CONCLUSION**

All the claims presently on file in the present application are in condition for immediate allowance, and such action is respectfully requested. If it is felt for any reason that direct communication would serve to advance prosecution of this case to finality, the Examiner is invited to call the undersigned at the below-listed telephone number.

Date: July 5, 2004

Samuel A. Kassatly Law Office  
20690 View Oaks Way  
San Jose, CA 95120  
Tel: (408) 323-5111  
Fax: (408) 323-5112

Respectfully submitted,



---

Samuel A. Kassatly  
Attorney for Applicants  
Reg. No. 32,247